United States Department of Agriculture

Animal and Plant Health Inspection Service

Veterinary Services

Milk Replacer Management Practices

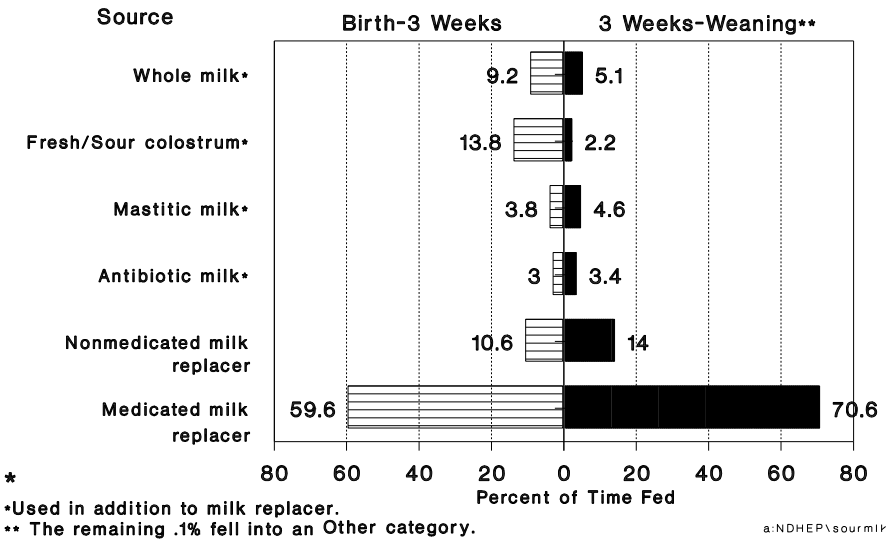
National Animal Health Monitoring System

Since the dairy calf receives most of its nutrients from a liquid feed such as milk replacer during the first few weeks of life, management of that milk replacer is important to the well being of the calf.

During a 1991-92 study by the National Animal Health Monitoring System (USDA:APHIS:VS), dairy producers were asked about the types of milk replacers used as well as the management practices involved with use of milk replacers. The National Dairy Heifer Evaluation Project (NDHEP) included 1,811 operations in 28 states.[1] These operations were randomly chosen so that results would be representative of herds of 30 cows or more in the 28 states. The herds represent 78 percent of the national dairy cow population.

The study included 606 producers who fed milk replacers to calves for all or part of the liquid feeding period and agreed to participate in the milk replacer evaluation. The information presented here focuses on the use and management of milk replacers. Calves in the critical neonatal period (birth to 3 weeks) were evaluated separately from growing calves (3 weeks to weaning) that most often consume grains and forages.

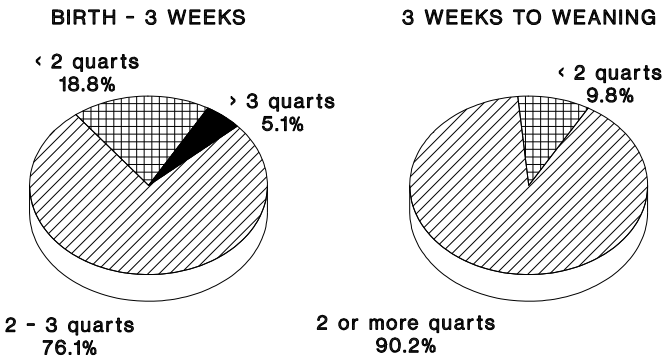
Figure 1. Sources of Liquid Feeds Used for Dairy Calves and Percent of Time Fed (of Producers Feeding Milk Replacers)



Just over 53 percent of producers feed medicated milk replacer and 11.8 percent feed a nonmedicated product. Figure 1 shows the types of liquid feeds fed to the two age groups and the percent of time fed. These are producer averages and do not imply actual diet fed to an average calf. If using milk replacers, producers feed medicated mixtures nearly 60 percent of the time for calves from birth to 3 weeks of age and about 70 percent of the time for older calves. Nonmedicated replacers are used 11 to 14 percent of the time for the respective age groups. Some producers use other sources of liquid feeds, such as whole milk and fresh or sour colostrum, along with milk replacer.

[1]States participating in the National Dairy Heifer Evaluation Project (NDHEP): Alabama, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New York, North Carolina, Pennsylvania, Ohio, Oregon, Rhode Island, Tennessee, Vermont, Virginia, Washington, and Wisconsin.

Figure 2. Percent of Producers Feeding Various Amounts of Milk Replacer to Dairy Calves by Age Group



Amounts of milk replacer routinely fed at one time for each age group are shown in Figure 2. More producers feed the younger calves less than 2 quarts per feeding (18.8 percent) than the older calves (9.8 percent). The majority feed both age groups more than 2 quarts per feeding. In addition, over 96 percent of the operations feed both age groups two times per day. Other NDHEP results show that calves are nearly always fed individually (on more than 96 percent of the operations).

Virtually all producers mix replacer daily and use it fresh. Greater than 93 percent of the producers use water at temperatures stated on the feed tag (cold or warm) to reconstitute the milk replacers.

Questions on winter feeding practices addressed increased amounts fed in cold environments. Nearly two-thirds of the producers who use milk replacers and have calves exposed to cold temperatures in winter months do not increase the amount of replacer fed (Figure 3). This fraction is consistent for both age groups.

The age at which water is first offered affects the calf's intake of grain and other solids and, therefore, impacts the length of time liquid feeds, including milk replacers, are fed (i.e., weaning age). Overall, about 39 percent of dairy producers do not offer water to calves under 4 weeks of age (Figure 4).

Figure 4. Percentage of Producers Who Offer Water to Dairy Calves by Age Group

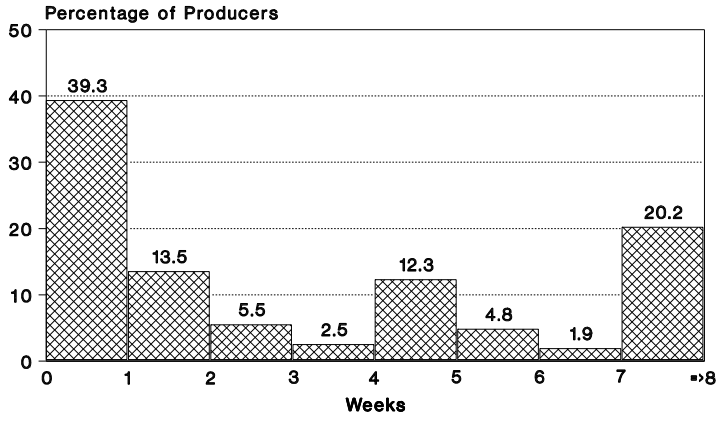
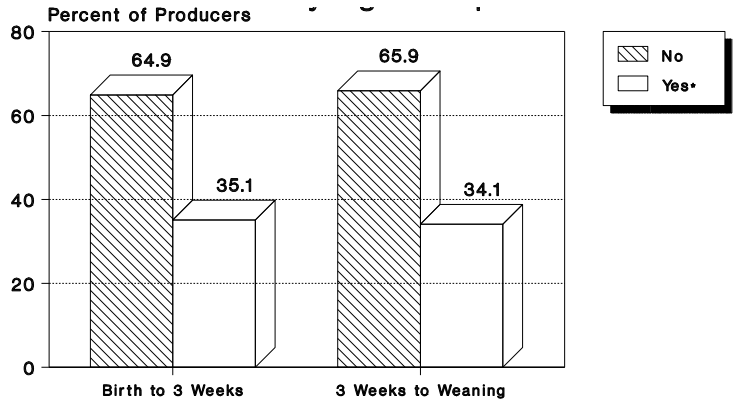


Figure 3. Percent of Producers Who Feed Dairy Calves Extra Milk Replacer During Winter Months by Age Group



*Includes those operations in cold climates that feed extra replacer and all those that are in warm climates or provide a warm environment year round.

Participants in the NDHEP also included the National Agricultural Statistics Service (USDA) and State and Federal Veterinary Medical Officers. The Cooperative Extension Service provided editorial assistance. For more information on the National Dairy Heifer Evaluation Project and other NAHMS programs, please contact:

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